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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant : Patrick Page

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Serial No. : 09/762,320

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GROUP 1600

For : FUNCTIONALIZED POLYMERIC REAGENTS

Examiner : M. Garcia Baker

Group Art Unit : 1639

OFFICIAL

**CERTIFICATE OF TRANSMISSION UNDER 37 C.F.R. 1.8**

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**Examiner M. Garcia Baker****Group 1639****Assistant Commissioner for Patents  
Washington, D.C. 20231**

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**RESPONSE TO RESTRICTION REQUIREMENT**

Sir:

Applicant submits this communication in response to the restriction requirement issued in the referenced application by an Office Action, mailed October 9, 2002, and concurrently petitions for a three-month extension of time. The Assistant Commissioner is authorized to

charge Deposit Account No. 23-1703 in the amount of Nine Hundred and Thirty Dollars (\$930.00) to cover the extension fee as required by 37 C.F.R. §§1.17(a)(3) and 1.136(a). Apart from the restriction requirement, there has been no substantive examination of the claims.

### **I. Election/Restriction**

The referenced application is a §371 of PCT/SE00/02263, filed February 6, 2001. A restriction requirement under 35 U.S.C. §121 was issued in the subject application. It is alleged that the subject application contains the following inventions or groups of inventions which are independent and patentably distinct:

Group I, claims 1-5 and 13, drawn to a functionalized polymeric reagent and a kit;

Group II, claims 6-8, drawn to a method for preparing a functionalized polymeric reagent;

Group III, claims 9-12, drawn to a method for preparing an organic compound; and

Group IV, claims 14-16, drawn to compounds of Formula II.

For examination purposes, Applicant elects the invention of Group I with traverse.

### **II. Traversal of Restriction Requirement**

Applicant respectfully traverses the restriction requirement as to the inventions of Groups I-IV. For the following reasons, withdrawal of the restriction between Groups I-IV is requested.

The Examiner alleges that the inventions listed as Groups I-IV do not relate to a single general inventive concept because, under PCT Rule 13.2, they lack the same or corresponding special technical features. The Examiner further alleges that the technical feature of Group IV is the compound of Formula II, whereas the technical feature which links the rest of the claims, i.e., Groups I-III, is the functionalized polymeric reagent.

In reply, Applicants submit that the functionalized reagent of Group I is the special technical feature linking the claims of Groups I-IV. Specifically, Group II is directed to methods for preparing the functionalized reagent of Group I. Group III is directed to methods of using the functionalized reagent of Group I for the preparation of organic compounds. Group IV is directed to precursor compounds of the functionalized reagent of Group I. Therefore, Groups I-IV are related through the functionalized reagent of Group I. Accordingly, there is unity of invention among claims of Groups I-IV.

Furthermore, in the Office Action at Paragraph 7, page 4, the Examiner acknowledges that there is unity of invention at least with respect to Groups I-III. Specifically, the claims of Groups I-III are linked by the "functionalized polymeric reagent" of Group I. Therefore, on this basis, at least the claims of Groups I-III should be rejoined and examined in the instant application.

### **III. Applicant's special technical feature is not disclosed by the cited prior art**

Notwithstanding the Examiner's acknowledgement that the claims of Groups I-III are linked by a special technical feature, the Examiner asserts that these Groups lack unity of invention because the claimed functionalized polymeric reagent is known in the art, as allegedly disclosed by Tetrahedron Letters, vol. 38, no. 3, pp. 359-362 (1997) by Short et al. ("Short"). The Examiner alleges that Short's disclosure of an isonitrile bound to a Wang resin reads on the functionalized polymeric reagent of claim 1.

In reply, Applicants submit that the claimed polymeric reagent is not disclosed by, and is distinguishable from, the polymeric reagent disclosed by Short. Consequently, there is unity of invention linking the pending claims.

The present invention is directed to functionalized polymeric reagents comprising a polymer and a linker. The linker comprises an acid labile isonitrile moiety and is cleavable at the CN functionality of the isonitrile. A key feature of Applicant's invention is that the reagent is cleaved *at the CN function*. In this regard, the Examiner's attention is directed to the specification at page 7, lines 16-18, where the term "acid labile isonitrile" is defined as an isonitrile moiety which is cleaved from the linker by treatment with acid. Therefore, in view of the specification, the person of ordinary skill in the art would readily understand that the isonitrile is separated from the linker at the isonitrile, and not at any other place on the reagent.

The key feature of the claimed invention is also disclosed by the Figures and Examples. For example, it can be seen in Figure 4 that the polymeric reagent reacts with an imino compound to form an intermediate which is then cleaved *at the isonitrile group* to yield an aminoimidazole.

In contrast, the reagent disclosed by Short does not cleave at the isonitrile moiety, but rather at the carboxyl end adjacent to the polymer. This is exemplified in Table 2, page 361, of Short, where it is shown that the bound Wang resins yield lactams 1 which have as R<sup>2</sup> substituent an alkylcarboxy group -CH<sub>2</sub>(CH<sub>2</sub>)<sub>m</sub>-COOH. That is, the Wang resin cleaves from the compound at the carboxyl group, rather than at the isonitrile group as taught by Applicant's invention. There is no teaching or suggestion by Short that the prior art polymer cleaves at any other position than the carboxyl group, and there is especially no teaching or suggestion of the claimed functionalized polymeric reagent comprising a linker with an acid labile isonitrile moiety cleavable at the CN-functionality.

Thus, the polymeric reagents of the claimed invention react differently than the reagents disclosed by Short. Applicant submits, therefore, that the claimed polymer is structurally

functionalized polymeric reagent comprising a linker with an acid labile isonitrile moiety cleavable at the CN-fucntionality.

Thus, the polymeric reagents of the claimed invention react differently than the reagents disclosed by Short. Applicant submits, therefore, that the claimed polymer is structurally distinguishable over the polymer disclosed by Short. All claims of the present application share this novel feature, i.e., the claimed polymer is cleaved *at the CN function*, which is not disclosed or suggested by the cited prior art. Thus, the claims of Groups I-IV are linked by unity of invention.

Furthermore, the Examiner's attention is directed to the International Preliminary Examination Report, which also states that the claimed invention is not disclosed or suggested by any of the documents cited therein.

In summary, the Examiner is respectfully requested to withdraw the restriction requirement as to Groups I-IV and to search and examine claims 1-16 in the present application.

Serial No. 09/762,320, filed February 6, 2001  
Docket No. 1103326-0654  
Page 6 of 6

**CONCLUSION**

It is submitted that Applicant has completely responded to the restriction requirement. Applicant submits that the application is in condition for allowance, which action is earnestly solicited.

Dated: Feb. 5, 2003

Respectfully submitted,

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